

**MEDICAL EVALUATION PROTOCOL
FOR THE FORMER WORKERS PROGRAM
U.S. DEPARTMENT OF ENERGY**

General Principles:

1. The purpose of the medical evaluation component of the U.S. Department of Energy (DOE) Former Workers Program (FWP) is to provide interested former workers with targeted testing to screen for adverse health effects potentially related to their work in DOE operations.
2. The selection of specific medical evaluations is based on the collection of a detailed occupational history for each worker.
3. The medical evaluation protocol may be changed only by or with the approval of DOE.
4. This protocol is intended to ensure consistency of approach in the medical evaluation of participants.
5. This protocol is not intended to dictate the clinical practice of medicine.
6. This protocol is not intended to substitute for periodic health maintenance/disease screening examinations by a former worker's personal physician.
7. Follow-up medical evaluation and treatment are not within the scope of the FWP.

Hazard(s)	Target Organ(s)	Health Outcome(s)	Medical Evaluation	Re-screening through FWP
Asbestos	Lung	<ul style="list-style-type: none"> Asbestosis Lung cancer 	<ul style="list-style-type: none"> Chest radiograph with B-reading Spirometry Physical examination 	<ul style="list-style-type: none"> Up to every 3 years
Beryllium	Lung	<ul style="list-style-type: none"> Sensitization (examinee has exposure history but is not known to have chronic beryllium disease) Chronic Beryllium Disease (CBD) 	<ul style="list-style-type: none"> Chest radiograph with B-reading (if symptomatic) Physical examination Beryllium Lymphocyte proliferation test (BeLPT): <ul style="list-style-type: none"> If borderline or indeterminate, repeat BeLPT If abnormal, examinee is considered to be sensitized and eligible for DOL's CBD medical monitoring program. 	<ul style="list-style-type: none"> Up to every 3 years if asymptomatic If new symptoms develop or worker is very concerned in interim, BeLPT can be performed
Plutonium, Lung Deposition of	Lung	Pulmonary Fibrosis	Chest radiograph	No
Silica	Lung	Silicosis	See Asbestos above	See Asbestos above
<ul style="list-style-type: none"> Epoxy resins Methylene dianiline 	Bladder	Carcinoma	Urine cytology	No
<ul style="list-style-type: none"> Ionizing radiation¹ Chemicals (e.g., benzene) 	Hematopoietic	Leukemia or non-malignant conditions	Complete blood count (CBC) with differential	No
<ul style="list-style-type: none"> Asbestos Ionizing radiation 	Gastrointestinal system	Carcinoma	Stool for occult blood	No
Diesel Exhaust	Lung	<ul style="list-style-type: none"> Chronic obstructive lung disease Lung cancer 	<ul style="list-style-type: none"> Respiratory symptoms questionnaire Spirometry None available 	No

¹ Lifetime occupational exposure > 0.1 Sv (10 REM) and time since last exposure < 25 years.

Hazard(s)	Target Organ(s)	Health Outcome(s)	Medical Evaluation	Re-screening through FWP
Welding	Lung	<ul style="list-style-type: none"> Asthma Chronic obstructive lung disease 	Symptoms questionnaire	No
Chromium	Lung	Asthma	Respiratory symptoms questionnaire, plus spirometry, as indicated	No
Formaldehyde	Lung	Asthma	Respiratory symptoms questionnaire, plus spirometry, as indicated	No
Metal Working Fluids	Lung	Asthma	Respiratory symptoms questionnaire, plus spirometry, as indicated	No
Nickel	Lung	Asthma	Respiratory symptoms questionnaire, plus spirometry, as indicated	No
Respiratory irritants	Lung	Chronic obstructive lung disease	Respiratory symptoms questionnaire, plus spirometry, as indicated	No
<ul style="list-style-type: none"> Radioactive iodine External ionizing radiation (>20rem Total Effective Dose Equivalent) 	Thyroid	Various thyroid diseases	<ul style="list-style-type: none"> Physical examination (i.e., palpation of the thyroid) Thyroid-stimulating hormone (TSH) 	No
<ul style="list-style-type: none"> Solvents Lead Mercury 	Central Nervous System	Chronic neurologic disease	Clinical evaluation	No
Ionizing radiation	Female Breast	Cancer	Recommend mammography by personal physician for women 40 years of age or older	No
Carbon tetrachloride and other chlorinated solvents	Liver	Hepatocellular injury and insufficiency	<ul style="list-style-type: none"> Bilirubin Transaminases 	No
Hydrazine	Liver	Hepatocellular injury	Transaminases	No
<ul style="list-style-type: none"> Cadmium Chromium Lead 	Kidneys	Chronic renal insufficiency	<ul style="list-style-type: none"> Serum creatinine Beta-2 microglobulin 	No

Hazard(s)	Target Organ(s)	Health Outcome(s)	Medical Evaluation	Re-screening through FWP
<ul style="list-style-type: none"> • Nickel • Chromium • Formaldehyde 	Skin	Dermatitis <ul style="list-style-type: none"> • Skin cancer • Cancer of the nasal mucosa 	Physical examination of the skin and nasal mucosa	No
<ul style="list-style-type: none"> • Ionizing or ultraviolet radiation 	Skin	Malignant melanoma	Physical examination of the skin	No
<ul style="list-style-type: none"> • Noise 	Ears	Hearing Impairment	Audiometry	No

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